

IN THE CLAIMS

Please amend the claims as follows:

Claim 1-11 (Canceled).

Claim 12 (Currently Amended): A process for the preparation of alkylaromatic compounds by reacting C₃₋₃₀-olefins, or alcohols from which C₃₋₃₀-olefins are formed under the reaction conditions, with an aromatic hydrocarbon in the presence of an alkylation catalyst, which comprises carrying out the reaction in a reactor cascade of at least two reactors, where each of the reactors comprises the alkylation catalyst, at least 80% of the aromatic hydrocarbon ~~are is~~ fed into the first reactor of the reactor cascade, and at least 40% of the olefins ~~are is~~ intermediately fed in after the first reactor, wherein the order of the reactors within the cascade is changed at time intervals such that each reactor assumes each of the positions within the cascade for the same period of time.

Claim 13 (Previously Presented): The process as claimed in claim 12, wherein the reactor cascade has at least three reactors, and the olefin is intermediately fed in before each of the reactors.

Claim 14 (Previously Presented): The process as claimed in claim 12, wherein in each case equal proportions of the olefin are fed into each reactor.

Claim 15 (Currently Amended): The process as claimed in claim 12, wherein the olefin is intermediately fed in before each of the reactors and the amount of olefin intermediately fed in ~~in~~ each case is controlled by individual pumps, valves, nozzles,

diaphragms, or orfices such that, in each reactor, the same incremental productivity is achieved, based on the respective amount of catalyst.

Claim 16 (Canceled).

Claim 17 (Previously Presented): The process as claimed in claim 12, wherein the reactors in the cascade each have the characteristics of a stirred-tank reactor.

Claim 18 (Previously Presented): The process as claimed in claim 12, wherein the alkylation is carried out in the liquid phase at temperatures in the range from 100 to 250°C.

Claim 19 (Previously Presented): The process as claimed in claim 12, wherein the alkylation catalyst is a heterogeneous catalyst chosen from acidic clays, acidic ion exchangers, acidic metal oxides, sulfated metal oxides, supported heteropolyacids and zeolites.

Claim 20 (Previously Presented): The process as claimed in claim 12, wherein C₁₀₋₁₂-olefins are used which have an average degree of branching of at least 0.5.

Claim 21 (Previously Presented): The process as claimed in claim 20, wherein the C₁₀₋₁₂-olefins are obtained by reacting a C₄-olefin mixture over a metathesis catalyst to prepare an olefin mixture comprising 2-pentene and/or 3-hexene, and optionally separating off 2-pentene and/or 3-hexene, and dimerizing the resulting 2-pentene and/or 3-hexene in the presence of a dimerization catalyst to give a mixture comprising C₁₀₋₁₂-olefins, optionally

followed by separating off the C₁₀₋₁₂-olefins and separating off 5 to 30% by weight, based on the separated-off C₁₀₋₁₂-olefins, of low-boiling constituents of the C₁₀₋₁₂-olefins.

Claim 22 (Currently Amended): The process for the preparation of alkylarylsulfonates by:

- a) reacting a C₄-olefin mixture over a metathesis catalyst to prepare an olefin mixture comprising 2-pentene and/or 3-hexene, and optionally separating off 2-pentene and/or 3-hexene,
- b) dimerizing the 2-pentene and/or 3-hexene obtained in stage a) in the presence of a dimerization catalyst to give a mixture comprising C₁₀₋₁₂-olefins, optionally separating off the C₁₀₋₁₂-olefins and separating off 5 to 30% by weight, based on the separated-off C₁₀₋₁₂-olefins, of low-boiling constituents of the C₁₀₋₁₂-olefins,
- c) reacting the C₁₀₋₁₂-olefin mixtures obtained in stage b) with an aromatic hydrocarbon in the presence of an alkylation catalyst to form alkylaromatic compounds, where, prior to the reaction, 0 to 60% by weight, based on the C₁₀₋₁₂-olefin mixtures obtained in stage b), of linear olefins may additionally be added,
- d) sulfonating the alkylaromatic compounds obtained in stage c) and neutralizing them to give alkylarylsulfonates, where, prior to the sulfonation, 0 to 60% by weight, based on the alkylaromatic compounds obtained in stage c), of linear alkylbenzenes may additionally be added if no such addition has taken place in stage c), and
- e) optionally mixing the alkylarylsulfonates obtained in stage d) with 0 to 60% by weight, based on the alkylarylsulfonates obtained in stage d), of linear alkylarylsulfonates, if no such additions have taken place in stages c) and d);
wherein the reaction in stage c) is carried out ~~in accordance with the process as claimed in claim 12 by reacting the C₁₀₋₁₂-olefin mixtures obtained in stage b) with an~~

aromatic hydrocarbon in the presence of an alkylation catalyst in a reactor cascade of at least two reactors, where each of the reactors comprises the alkylation catalyst, at least 80% of the aromatic hydrocarbon is fed into the first reactor of the reactor cascade, and at least 40% of the olefins is intermediately fed in after the first reactor, wherein the order of the reactors within the cascade is changed at time intervals such that each reactor assumes each of the positions within the cascade for the same period of time.